NASA SBIR/STTR Technologies

Phase II - A Sensor Management Tool for Use with NASA World Wind
S6.02 Earth Science Applied Research and Decision Support
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SBIR STTR

Identification and Significance of Innovation

The developed Proteus desktop client supports the individual researcher in discovering sensor offerings and sensor data via OGC-standardized Sensor Observation Services (SOSs). Proteus supports an intuitive discovery workflow and allow users to preview and bulk download sensor data.

The Community Hub server-side component can be used by data managers to monitor OGC-compliant SOSs, both with respect to their availability and the delivery of available sensor data. Irregular data delivery may indicate a problem with data recording or the SOS.

Expected TRL Range at the end of Contract (1-9): 5
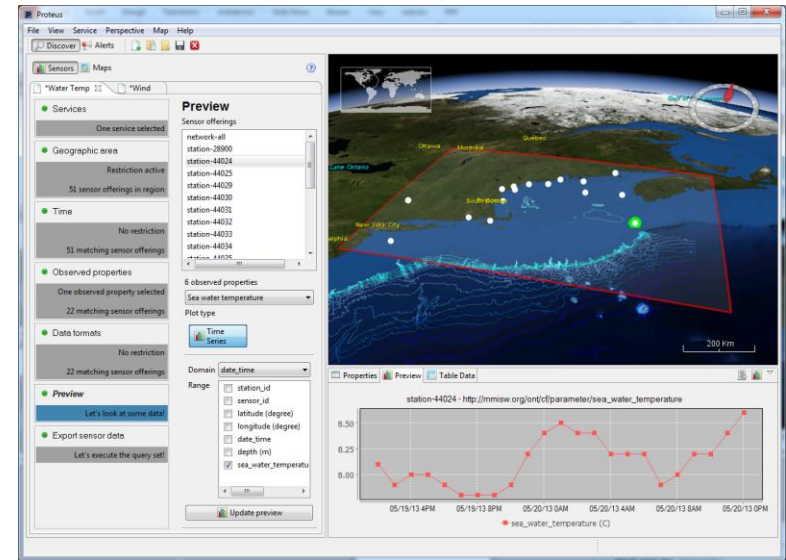
Technical Objectives and Work Plan

Technical Objectives:

1. Incorporate the Use of Relevant Standards (OGC)
2. Develop a Sensor Management Tool using Plugin Architecture and Open Source software
3. Provide View Configurability to support various user's needs

Core Work Plan

1. Knowledge Engineering to Determine Sensor Management Tool Views and View Requirements for Different Types of User
2. Sensor Management Tool Design Revisited Intensive
3. Develop alerting support to notify users on service and data events
4. Develop support to allow users to add map views
5. Develop user configurability with perspectives and views
6. Extended discovery capability using catalogues
7. Software development spiral 1
8. Software development spiral 2

NASA and Non-NASA Applications

NASA Applications

• Use in accessing and managing data for ocean studies (including Gulf of Mexico efforts),
• Use for managing data relevant to hurricane studies,
• Use for managing data from UAVs in NASA – led technology development for western region firefighting mission efforts,

Promising Non-NASA commercial applications are:

• Use by Data Managers for managing Sensor Observation Services
• Use by Data Managers for receiving alerts when data delivery is not as expected
• Use by Researchers to monitor sensor data in particular regions and from specific sensor offerings
• Use of Sensor Management Tool regarding data related to agriculture monitoring or ecology monitoring (dept. Agriculture, various state agencies)

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NON-PROPRIETARY DATA